

# **ELABORATION ON WESTERN MASSACHUSETTS ELECTRIC COMPANY'S 2003 PROGRAM EVALUATIONS INCLUDED IN ITS APRIL 11, 2003 FILING (D.T.E. 03-43)**

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WMECO has a long history of providing quality C&LM programs to the energy consumers of Massachusetts. An integral part of creating, delivering and maintaining quality programs is the process of conducting independent evaluations of those programs and the markets they serve.

Evaluations serve many purposes. They determine and quantify the net energy savings derived from program participation; assess the effects of programs in their market groups; help utilities gain a better understanding of how to influence key players in the marketplace; provide for improved program delivery; increase customer satisfaction and allow for careful management of consumer funds.

Several types of evaluations are conducted to monitor program performance, including impact, process and baseline evaluations, as well as market assessments. Impact evaluations estimate the magnitude of net energy savings (savings attributable to the program); process evaluations assess the effectiveness of program delivery and typically include recommendations for enhancements; baseline evaluations and market assessments examine overall market conditions related to efficiency products and services, including current standard practices, average efficiency of equipment, market penetration of program supported high efficiency products, consumer purchasing practices, and market barriers. Each of these evaluations provides WMECO with critical information that is then used in program planning.

WMECO considers many factors in deciding which evaluation studies to undertake in any given year. Among these is the maturity level of the program, the stability of past evaluation results, market conditions, recent or planned program changes and the cost and energy savings associated with the program. WMECO also works in a broad regional context when planning evaluation activities for the upcoming program year. By collaborating on studies with regional organizations and utilities with similar interests, it is possible to take full advantage of opportunities to gather information in the most cost effective manner. Occasionally, opportunities to participate in evaluation studies are unforeseen and therefore are not included in the planning process. If an unplanned opportunity proves to be in the best interest of its customers, WMECO will commit resources to those efforts as well.

## **WMECO Evaluations**

**Small Business Energy Advantage Impact Evaluation** The objective of this program is to serve the Company's smaller C & I customer base with cost-effective, turn-key

conservation services through the availability of project financing. This initial impact evaluation of the 2002 program year will estimate net energy savings, examine what measures and equipment are being successfully installed, and determine the influence of the incentive levels and structure on the measure installations. The Company will also obtain information to benefit future program implementation and design including methodology improvements and customer satisfaction levels.

**Occupancy Sensor Baseline Study** WMECO promotes and utilizes occupancy sensor technology to deliver savings to their municipal, small business and commercial customers. The greatest usage of this technology is used in school buildings. This study will attempt to provide an accurate baseline of lighting usage in all room types in schools prior to sensor installation. The results will be used to determine measurable savings post-installation, accurately predict the benefit to cost ratio of occupancy sensors and to identify where sensors should be placed to enhance their savings potential. Although some information on this subject has been gleaned from other WMECO evaluations, this specific study is the only one planned at this time.

**Express Program Impact Evaluation** The Express Services program targets medium sized C&I customers who plan to upgrade existing lighting, motors, and HVAC equipment. Customers may enroll in the regional Motor Up Program which promotes premium efficiency motors, the regional Cool Choice Program for high efficiency HVAC units and a lighting rebate program. The focus of the 2002 program impact evaluation will be to determine energy savings and seasonal coincident/non-coincident demand impacts; the study will also examine what measures and equipment are being successfully installed and determine the influence of the incentive levels and structure on the measure installations. Impact evaluations were conducted for the program years 1996, 1997-1998, and 1999. In 2001, an evaluation and market assessment was conducted by the Motor Up Working Group. Also in 2001, a process evaluation of the Northeast Energy Efficiency Partnerships, Inc., (NEEP) C&I HVAC Initiative / Cool Choice was conducted.

**Prime Program Impact Evaluation** The Prime Program specifically targets the industrial manufacturing sector. Using Lean Manufacturing principles and practices, Prime enables manufacturers to reduce their electrical energy consumption and dramatically increase productivity by reducing lead time and overhead costs. This in turn increases profitability and promotes economic growth for Massachusetts. The focus of the 2002 program evaluation will be to quantify program energy savings, identify the non-electric benefits to the manufacturing business sector as well as the community at large, determine customer satisfaction levels and identify areas of program improvement. This will be the first evaluation conducted for this program.

## **Joint Massachusetts Utility Studies**

**C&I Free-Rider/Spillover Study** Several Massachusetts utilities are sponsoring this study in 2003 and future years to estimate the free-rider ship and spillover impacts of their commercial and industrial programs. The objective of the study is to develop an

instrument or set of instruments and an analysis methodology that can be used by each sponsor to determine free-ridership and spillover effects for the energy efficiency measures and programs offered to commercial and industrial customers.

**Residential Refrigeration Study** This study requires the contractor to conduct monitoring and verification of residential refrigerators with the primary goal of determining a relationship between observable independent variables and monitored use. Additional objectives of this study are to develop an empirical model of refrigerator annual energy use; estimate reliability and any potential bias in the energy ratings provided by AHAM; provide adjustments to program level refrigerator savings realization rates and inform program designers and implementers.

**Energy Star Homes (MPER)** The Massachusetts utilities are jointly implementing selected studies recommended in the multi-year program evaluation and market progress reporting plans developed in 2001. Topics include market assessment and progress for the Energy Star Homes Program. This initiative is anticipated to be completed in 2004.

**Energy Star Lighting (MPER)** The Massachusetts utilities are jointly implementing selected studies recommended in the multi-year program evaluation and market progress reporting plans developed in 2001. Topics include market assessment and progress, developing a sales tracking system for lamps and fixtures and evaluation of industry related campaigns. This initiative is anticipated to be completed in 2004.

**Energy Star Appliances (MPER)** The Massachusetts utilities are jointly implementing selected studies recommended in the multi-year program evaluation and market progress reporting plans developed in 2001. Topics include market assessment and progress, developing a sales tracking system for Energy Star appliances and evaluation of industry related campaigns. This initiative is anticipated to be completed in 2004.

**RCS Program Evaluations** A process and impact evaluation sponsored by DOER will be conducted on the redesigned RCS program. The results of these efforts will be used to further improve the design and implementation of this program.

**Avoided Cost Update Study** The Massachusetts electric and gas utilities are required to update avoided costs every two years. This study will update avoided energy supply costs including avoided electric, gas, oil, and other resource costs. This information will be used to support future program and measure screening.

**Non-Electric Benefits Studies** The Massachusetts utilities are working jointly to verify and establish common algorithms for calculating non-electric benefits in their residential and C&I programs. The results of this study will be used for future planning and evaluation purposes.

**2003 C&I New Construction Market Share Study** The study will focus on identifying the current market trends in the commercial and industrial building sectors. Phase 2 of

the study will focus on creating a reliable tracking mechanism to aid the utilities design and implementation of its efficiency programs in these areas.

## **Regional Evaluation Studies**

WMECO is also considering participating in several regional evaluation studies recently proposed by Northeast Energy Efficiency Partnerships, Inc. (NEEP). Historically, NEEP's involvement has included assisting the utilities in planning, coordinating, managing, and fund raising for the regional studies. These studies are currently in their developmental planning stages.

**2003 Summary of Regional Impacts and Results** This study will use existing information sources to develop a summary of the status, costs, benefits and market effects of individual regional market transformation initiatives for Premium Motors, Unitary HVAC, Residential Lighting & Appliances, Residential HVAC, Transformers and Building Operation and Maintenance. NEEP is currently pursuing a variety of funding sources.

**2003 Retail Lighting & Appliance Market Share Tracking Study** Utility companies have been in the practice of counting lighting and appliance rebate coupons as a means of determining the effect that their programs have had on the retail marketplace. WMECO is reviewing the possibility of taking part in a regional collaboration that would allow direct measurement of the numbers of types and quantities of Energy Star products sold in a cost effective manner. Its intent is to develop an ability to obtain state by state results. A process has already been developed for the West Coast and a similar one could be used in the Northeast. Once a measurement process is put in place, WMECO could directly measure the customer's response to promotional campaigns without the expense and burden of coupon counting. This study would also expand market share tracking systems databases by including regional and national products information.

**2003 Express Cool Choice Scoping Study (Phase 1)** This study will identify and develop market based indicators and assess the feasibility of market share tracking for qualified HVAC products.

**2003 Express Cool Choice Scoping Study (Phase 2)** Upon completion of Phase 1, begin tracking of market based indicators and market shares.

**2003 Express Motor Up Scoping Study (Phase 1)** This study will identify and develop market based indicators and assess the feasibility of market share tracking for qualified motor products.

**2003 Express Motor Up Scoping Study (Phase 2)** ) Upon completion of Phase 1, begin tracking of market based indicators and market shares.

